Semantic Caching

ABSTRACT OF THE DISCLOSURE

Resources are cached based on the semantic type of the resource. The cache management strategy is customized for each semantic type, using different caching policies for different semantic types. Semantic types that can be expected to contain dynamic information, such as news and weather, employ an active caching policy wherein the resource in the cache memory is chosen for replacement based on the duration of time that the resource has been in cache memory. Conversely, semantic types that can be expected to contain static resources, such as encyclopedic information, employ a more conservative caching strategy, such as LRU (Last Recently Used) and LFU (Least Frequently Used) that is substantially independent of the time duration that the resource remains in cache memory. Additionally, some semantic types, such as communicated e-mail messages, newsgroup messages, and so on, may employ a caching policy that is a combination of multiple strategies, wherein the resource progresses from an active cache with a dynamic caching policy to a more static caches with increasing less dynamic caching policies. The relationship between semantic content type and caching policy to be associated with the type can be determined in advance, or may be determined directly by the user, or could be based, at least partly, on user-history and profiling of user-interaction with the resources.